Amendments to the Specification

On page 9, please replace the paragraph commencing at line 8 with the following amended paragraphs:

Figure 5(a) illustrates the effects of *ROB5* gene expression in canola, for the purposes of assessing frost tolerance. Plants were incubated at 2°C (light) and 0°C (dark) with a 16h photoperiod for 2 days, and then were tested with incubation temperatures as low as -9°C for 2 cycles over 2 days. ~~(a) provides a~~ The graph ~~to~~ compares the total weight of seeds (W) in grams harvested from control canola plants to various lines transformed with the COR78:ROB5 construct[,].

Figure 5(b) provides comparative photographs of control and COR78:ROB5 transformed line 13915 following frost exposure[,] ~~, and~~

Figure 5(c) provides comparative photographs of the total seeds harvested from a control plant and COR78:ROB5 transformed line 13516.

On page 9, please replace the paragraph commencing at line 19 with the following amended paragraphs:

Figure 6(a) illustrates the effects of *ROB5* gene expression in canola, for the purposes of assessing heat tolerance. Plants were incubated at 42°C for 16h for 2 cycles over 2 days at the flowering stage. ~~(a) provides a~~ The graph ~~to~~ compares the total weight of seeds (W) in grams harvested after heat stress of control canola plants to various lines transformed with COR78:ROB5 construct[,].

Figure 6(b) provides comparative photographs of control and COR78:ROB5 transformed line 13513 following heat exposure.

On page 9, please replace the paragraph commencing at line 27 with the following amended paragraphs:

Figure 7(a) illustrates the effects of *ROB5* gene expression in canola, for the purposes of assessing drought tolerance. Moisture loss was assessed over 15 days of drought (no water) conditions. ~~(a)~~ The figure illustrates percentage moisture loss (%M) for control canola and COR78:ROB5 transformed line 13513 over 15 days of withholding water[,].

Figure 7(b) illustrates percentage emergence of seedlings (%E) from 1 to 20 days after seeding for control and two COR78:ROB5 transformed lines (13911 and 13915)[,].

Figure 7(c) provides comparative photographs of control and COR78:ROB5 transformed seedlings after extended drought conditions (transformed line 13514)~~, and~~

Figure 7(d) provides comparative photographs of control and COR78:ROB5 transformed plants after extended drought conditions (transformed line 13911).

On page 10, please replace the paragraph commencing at line 8 with the following amended paragraphs:

Figure 8(a) illustrates the effects of *ROB5* gene expression in canola, for the purposes of assessing seedling emergence and vigor. Seedling germination conditions pertained to 22°C for 24h, or 8°C over time, and included control and COR78:ROB5 transformed plants. ~~(a)~~ The figure illustrates percentage germination (%G) of control and transformed lines (13513, 13911, and 13915) of seeds after 24h at 22°C[,].

Figure 8(b) illustrates seedling emergence (E) per meter for control and transformed plants (lines 13909, 13911, and 13912) over days after planting (field trial)~~, and~~

Figure 8(c) illustrates percentage germination (%G) for control and transformed plants (lines 13516, 13911, and 13915) over days after planting at 8°C.

On page 10, please replace the paragraph commencing at line 19 with the following amended paragraphs:

Figure 9(a) illustrates the effects of *ROB5* gene expression in canola, for the purposes of assessing days to flowering and overall yield. Plants were grown in 41 pots outside, and included control and COR78:ROB5 transformed plants. ~~(a)~~ The figure illustrates a comparison of the number of days that control and transformed lines took to flower[,].

Figure 9(b) illustrates the percentage of seeds larger than 2.00mm in diameter (%S) for control and transformed lines[,].

Figure 9(c) illustrates the height in inches (H) of control and transformed lines 69 days after planting[,].

Figure 9(d) illustrates average weight W (in grams) of 1000 kernel seeds harvested from control and transformed plants[,] ~~and~~

Figure 9(e) provides comparative photographs of control and transformed line 13514 at 69 days after planting.

On page 10, please replace the paragraph commencing at line 30 with the following amended paragraphs:

Figure 10(a) illustrates the effects of *ROB5* gene expression in flax, for the purposes of assessing frost tolerance. Plants were incubated at 2°C (light) and 0°C (dark) with a 16h photoperiod for 2 days, and then were tested with incubation temperatures as low as -9°C for 2 cycles over 2 days at the flowering stage. ~~(a)~~ The figure provides a graph to compare the total weight of seeds (W) in grams harvested from control flax plants to various lines transformed with the COR78:ROB5 construct[,].

Figure 10(b) provides comparative photographs of control and COR78:ROB5 transformed lines exposed to different temperatures.

On page 11, please replace the paragraph commencing at line 8 with the following amended paragraphs:

Figure 11(a) illustrates the effects of *ROB5* gene expression in flax, for the purposes of assessing heat tolerance. Plants were incubated at 42°C for 16h for 2 cycles over 2 days at the flowering stage. ~~(a)~~ The figure provides a graph to compare the total weight of seeds (W) in grams harvested after heat stress of control flax plants to various lines transformed with COR78:ROB5 construct[,] ~~and~~

Figure 11(b) provides comparative photographs of control and COR78:ROB5 transformed line 13467 following heat exposure.

On page 11, please replace the paragraph commencing at line 16 with the following amended paragraphs:

Figure 12(a) illustrates the effects of *ROB5* gene expression in flax, for the purposes of assessing drought tolerance. Moisture loss was assessed over 15 days of drought (no water) conditions. ~~(a)~~ The figure illustrates plant weight (W) for control flax and COR78:ROB5 transformed lines[,].

Figure 12(b) illustrates percentage moisture loss (%M) for seedlings from 1 to 17 days for control and two COR78:ROB5 transformed lines[,] ~~and~~

Figure 12(c) provides comparative photographs of control and COR78:ROB5 transformed plants after extended drought conditions (transformed line 13818).

On page 11, please replace the paragraph commencing at line 25 with the following amended paragraphs:

Figure 13(a) illustrates the effects of *ROB5* gene expression in flax, for the purposes of assessing seedling emergence and germination. Seedling germination conditions pertained to 22°C for 24h, or 8°C for 3 days, and included control and COR78:ROB5 transformed plants. ~~(a)~~ The figure illustrates percentage germination (%G) of control and transformed lines of seeds after 3 days at 8°C[,].

Figure 13(b) illustrates seedling emergence (E) per meter for control and transformed lines after 12-28 days from planting (field trials)~~,~~ ~~and~~

Figure 13(c) illustrates percentage germination (%G) for control and transformed plants after 24 hours germination time at 22°C.

On page 12, please replace the paragraph commencing at line 4 with the following amended paragraphs:

Figure 14(a) illustrates the effects of *ROB5* gene expression in flax, for the purposes of assessing days to flowering and overall yield. Plants were grown in 41 pots outside, and included control and COR78:ROB5 transformed plants. ~~(a)~~ The figure illustrates a comparison of the number of days after planting that control and transformed lines took to flower[,].

Figure 14(b) illustrates the height in mm (H) of control and transformed lines 48 days after planting[,].

Figure 14(c) illustrates average weight (in grams) of 1000 kernel seeds harvested from control and transformed plants~~,~~ ~~and~~

Figure 14(d) provides comparative photographs of a control flax plant and transformed flax plant line 13850 at 48 days after planting.

On page 12, please replace the paragraph commencing at line 15 with the following amended paragraphs:

Figure 15(a) illustrates the effects of *ROB5* gene expression in potato, for the purposes of assessing frost tolerance. Plants were incubated at 2°C (light) and 0°C (dark) with a 16h photoperiod for 2 days, and then were tested with incubation temperatures as low as -6°C for 2 cycles over 2 days at the flowering stage. ~~(a)~~ The figure provides a graph to compare percentage ion leakage (%I) for control potato plants to various lines transformed with the COR78:ROB5 construct[,].

Figure 15(b) provides a graph to compare percentage ion leakage (%I) for control potato plants to various transformed cell lines[,].

Figure 15(c) compares a visual assessment of plant survival (V) for control and various transformed plants at -4°C[,].

Figure 15(d) provides comparative photographs of control and 35S:ROB5::COR15:PPA transformed line 13716 following frost exposure[, and]

Figure 15(e) provides comparative photographs of control and COR78:ROB5 transformed line 13669 following frost exposure.

On page 12, please replace the paragraph commencing at line 29 with the following amended paragraphs:

Figure 16(a) illustrates the effects of *ROB5* gene expression in potato, for the purposes of assessing heat tolerance. Plants were incubated at 42°C for 16h for 2 cycles over 2 days at the flowering stage. [(a)] The figure illustrates a visual comparison of the degree of frost damage to control and various plant lines transformed with either the 35S:ROB5 or COR78:ROB5 constructs, wherein C=control, P=Visual observation of the degree of frost damage, 0=No damage, +=some damage (50% ion leakage), and ++=heavy damage (>50% ion leakage)[, and]

Figure 16(b) provides comparative photographs of control and 35S:ROB5 transformed plant 13637, and COR78:ROB5 transformed plant 13650 following heat exposure.

On page 13, please replace the paragraph commencing at line 8 with the following amended paragraphs:

Figure 17(a) illustrates the effects of *ROB5* gene expression in potato, for the purposes of assessing drought tolerance. Moisture loss was assessed over 15 days of drought

(no water) conditions. ~~(a)~~ The figure illustrates tuber yield (T) for control potato and 35S:ROB5 transformed lines[,].

Figure 17(b) illustrates tuber yield (T) for control potato and COR78:ROB5 transformed lines,~~, and~~

Figure 17(c) illustrates tuber yield (T) for control potato and 35S:ROB5::COR15:PPA transformed lines.

On page 13, please replace the paragraph commencing at line 15 with the following amended paragraphs:

Figure 18(a) illustrates the effects of *ROB5* gene expression in potato, for the purposes of assessing emergence. ~~(a)~~ The figure illustrates percentage hills emerged in the field at 40 days after planting (%D) of control and transformed lines[,].

Figure 18(b) provides comparative photographs of control and COR78:ROB5 transformed plants at 40 days after planting in the field.

On page 13, please replace the paragraph commencing at line 21 with the following amended paragraphs:

Figure 19(a) illustrates the effects of *ROB5* gene expression in potato, for the purposes of assessing days to maturity and overall yield. ~~(a)~~ The figure illustrates a comparison of height (H) of control and transformed plants (in mm) 51 days after planting,~~, and~~

Figure 19(b) illustrates the total harvested tuber weight (W) (in kg) of control and transformed potato plants 51 days after planting.

On page 13, please replace the paragraph commencing at line 27 with the following amended paragraphs:

Figure 20(a) illustrates Western blot analysis of control and potato transgenic lines expressing *ROB5* protein (41-43 kDa). ~~(a)~~ The figure shows lines transformed with 35S:ROB5[,].

Figure 20(b) shows lines transformed with COR78:ROB5, ~~and~~

Figure 20(c) shows lines transformed with 35S:ROB5::COR15:PPA. Aliquots of total soluble protein fractions (60,000x g supernatants) isolated from each line were subjected to one dimensional SDS-PAGE prior to electroblotting and probing with a polyclonal antibody against ROB5 protein. Potato plants were grown in growth chambers prior to harvesting leaves for protein isolation. COR78 and COR15 were cold acclimated at 8°C 16 hour photoperiod for 4 days.

On page 14, please replace the paragraph commencing at line 6 with the following amended paragraphs:

Figure 21(a) provides Western blot analysis of ~~(a)~~ spring canola cv. Quest[,].

Figure 21(b) provides winter canola cv. Express, ~~and~~

Figure 21(c) provides spring wheat cv. Katepwa to assay for the expression of ROB5 or immunoreactive homologues thereof.

On page 14, please replace the paragraph commencing at line 10 with the following amended paragraphs:

Figure 22(a) illustrates 2D SDS-PAGE and electroblotting experiments to provide evidence for ROB5 homologues in species other than Bromegrass. Blots were derived from ~~various plant species including (a)~~ flax (*Linum usitatissimum*) cv. Norwin[,].

Figure 22(b) illustrates 2D SDS-PAGE and electroblotting experiments to provide evidence for ROB5 homologues in species other than Bromegrass. Blots were derived from barley (*Hordeum vulgare*) cv. Harrington[,].

Figure 22(c) illustrates 2D SDS-PAGE and electroblotting experiments to provide evidence for ROB5 homologues in species other than Bromegrass. Blots were derived from Tobacco (*Nicotiana tabacum*)[,].

Figure 22(d) illustrates 2D SDS-PAGE and electroblotting experiments to provide evidence for ROB5 homologues in species other than Bromegrass. Blots were derived from tomato (*Lycopersicon lycopersicum*)[,].

Figure 22(e) illustrates 2D SDS-PAGE and electroblotting experiments to provide evidence for ROB5 homologues in species other than Bromegrass. Blots were derived from cucumber (*Cucumis sativus*), ~~and~~

Figure 22(f) illustrates 2D SDS-PAGE and electroblotting experiments to provide evidence for ROB5 homologues in species other than Bromegrass. Blots were derived from bromegrass (*Bromus inermus*) cv. Leyss.

On page 14, please replace the paragraph commencing at line 17 with the following amended paragraphs:

Figure 23(a) illustrates enhanced emergence of COR78:ROB5 transformed canola plants compared to control plants at 'non-stressed' sites. ~~(a)~~ The graph shows average number of emerged seedlings per meter of seeded ground (E) at MacGregor, MB, ~~and~~

Figure 23(b) shows average number of emerged seedlings per meter of seeded ground (E) at Portage la Prairie.

On page 14, please replace the paragraph commencing at line 23 with the following amended paragraphs:

Figure 24(a) illustrates enhanced growth and development of COR78:ROB5 transformed canola plants compared to control plants at 'non-stressed' sites at 3 weeks after emergence. ~~(a)~~ The graph shows average height of seedlings H (in cm) for trials at MacGregor, MB, ~~and~~

Figure 24(b) shows average height of seedlings (H in cm) for trials at Portage la Prairie.

On page 14, please replace the paragraph commencing at line 29 with the following amended paragraphs:

Figure 25(a) illustrates enhanced maturity and decreased number of days to flowering of COR78:ROB5 transformed canola plants compared to control plants at 'non-stressed' sites. ~~(a)~~ The graph shows average time to flowering (F) (days after planting) for trials at MacGregor, MB.~~, and~~

Figure 25(b) shows time to flowering (F) (days after planting) for trials at Portage la Prairie.

On page 15, please replace the paragraph commencing at line 4 with the following amended paragraphs:

Figure 26(a) illustrates enhanced maturity and decreased number of days to flowering of COR78:ROB5 transformed canola plants compared to control plants at 'stressed' sites. ~~(a)~~ The graph shows average time to flowering (F) (days after planting) for trials at Wakaw, SK[,].

Figure 26(b) shows time to flowering (F) (days after planting) for trials at Aberdeen, SK[,].

Figure 26(c) shows average time to flowering (F) (days after planting) for trials at Saskatoon, SK.~~, and~~

Figure 26(d) is a comparative photograph of plants growth for Figure 26(c), control plants shown in the left-hand row, and transgenic (13513) plants shown in the right hand row (note that florets were not "bagged" for this experiment).

On page 15, please replace the paragraph commencing at line 14 with the following amended paragraphs:

Figure 27(a) illustrates enhanced maturity at harvest time for COR78:ROB5 transformed canola plants compared to control plants at 'non-stressed' sites. ~~(a)~~ The graph shows average percentage maturity (%M) for trials at MacGregor, MB.~~, and~~

Figure 27(b) shows average percentage maturity (%M) for trials at Portage la Prairie, MB.

On page 15, please replace the paragraph commencing at line 20 with the following amended paragraphs:

Figure 28(a) illustrates enhanced maturity at harvest time for COR78:ROB5 transformed canola plants compared to control plants (at a 'stressed' site). ~~(a)~~ The figure provides comparative photographs for control and transformed plants (line 13513) on August 8, 2003. ~~and~~

Figure 28(b) provides comparative photographs for control and transformed plants (line 13513) on September 26, 2003. Note increased vigor and pod development for the transformed plants.

On page 15, please replace the paragraph commencing at line 27 with the following amended paragraphs:

Figure 29(a) illustrates enhanced pod fill for COR78:ROB5 transformed plants compared to control canola plants at 'non-stressed' sites. ~~(a)~~ The graph shows average percentage pod fill (%P) for trials at MacGregor, MB.~~, and~~

Figure 29(b) shows average pod fill (%P) for trials at Portage la Prairie, MB.

On page 16, please replace the paragraph commencing at line 1 with the following amended paragraphs:

Figure 30(a) illustrates enhanced pod fill for COR78:ROB5 transformed plants compared to control canola plants at 'stressed' or 'very-stressed' sites. ~~(a)~~ The graph shows average percentage pod fill (%P) for trials at Aberdeen, SK (stressed)~~,~~ ~~and~~

Figure 30(b) shows average pod fill (%P) for trials at Nisku, AB (very stressed).

On page 16, please replace the paragraph commencing at line 7 with the following amended paragraphs:

Figure 31(a) illustrates enhanced maturity and root development in COR78:ROB5 transformed canola plants. ~~(a)~~ The figure provides comparative photographs illustrating advanced maturity of canola transformed line 13516 (right) compared to a control plant (left) in the field at Wakaw, SK (stressed)~~,~~ ~~and~~

Figure 31(b) provides comparative photographs showing root development of canola transformed line 13513 (right) compared to a control plant (left) at Wakaw, SK.

On page 16, please replace the paragraph commencing at line 18 with the following amended paragraphs:

Figure 33(a) illustrates total yield and quality of seeds for COR78:ROB5 transformed canola plants compared to control plants at 'stressed' sites. ~~(a)~~ The graph shows total yield of seeds (T in grams) for control and transformed plants at Aberdeen, SK~~,~~ ~~and~~

Figure 33(b) shows total yield of seeds (T in grams) for control and transformed plants at Wakaw, SK.

On page 16, please replace the paragraph commencing at line 28 with the following amended paragraphs:

Figure 35(a) illustrates the percentage number of seeds greater than a predetermined diameter (%S) for COR78:ROB5 transformed canola plants compared to control plants at

'stressed' sites. ~~(a)~~ The graph shows the total percentage of seeds having a diameter greater than 2.22mm harvested from plants at the Wakaw, SK site,~~; and~~

Figure 35(b) shows the total percentage of seeds having a diameter greater than 2.00mm harvested from plants at the Saskatoon, SK site.

On page 17, please replace the paragraph commencing at line 5 with the following amended paragraphs:

Figure 36(a) provides a comparison of seeds harvested from control and COR78:ROB5 plants grown at a stressed site (Saskatoon, SK). ~~(a)~~ The graph shows the 1000 Kernel Seed Weight W (in g) of seeds harvested from control and transformed canola plants,~~; and~~

Figure 36(b) provides comparative photographs of seeds derived from control (left) and COR78:ROB5 transformed plants (right). Note improved seed quality and maturity in seeds derived from transgenic plant.

On page 17, please replace the paragraph commencing at line 12 with the following amended paragraphs:

Figure 37(a) illustrates enhanced germination and seed quality of COR78:ROB5 transformed canola plants compared to control plants under both non salt stressed and salt stressed conditions. ~~(a)~~ The graphs show percentage germination (%G) for control and transformed plants (mean 4 plates) over an 8 day period at stressed sites under conditions of no salt stress (ddH2O applied at 24°C),~~; and~~

Figure 37(b) show percentage germination (%G) for control and transformed plants (mean 4 plates) over a 7 day period at stressed sites under conditions of salt stress (80mM salt applied at 24°C).

On page 20, please replace the paragraph commencing at line 4 with the following amended paragraph:

Optimal alignment of sequences for comparison may be conducted by computerized implementations of known algorithms, or by inspection. Readily available sequence comparison and multiple sequence alignment algorithms are, respectively, the Basic Local Alignment Search Tool (BLAST) (Altschul, S.F. et al 1990. J. Mol. Biol. 215:403; Altschul, S.F. et al 1997. Nucleic Acids Res. 25:3389-3402) and ClustalW programs. ~~BLAST is available on the Internet at http://www.ncbi.nlm.nih.gov and a version of ClustalW is available at http://www2.ebi.ac.uk.~~ Other suitable programs include GAP, BESTF1T, FASTA, and TFASTA in the Wisconsin Genetics Software Package (Genetics Computer Group (GCG), 575 Science Dr., Madison, WI). For greater certainty, as used herein and in the claims, "percentage of sequence identity" or "percentage of sequence homology" of amino acid sequences is determined based on optimal sequence alignments determined in accordance with the default values of the BLASTX program, available as described above.

On page 27, please replace the paragraph commencing at line 1 with the following amended paragraph:

Griffin, H.G., eds., Humana Press, New Jersey, 1994 and other protocols known to those skilled in the art. Moreover, programs to determine relatedness or identity are codified in publicly available programs. One of the most popular programs comprises a suite of BLAST programs, three designed for nucleic acid sequences (BLASTN, BLASTX and TBLASTX), and two designed for protein sequences (BLASTP and TBLASTN) (Coulson, Trends in Biotechnology, 12:76-80, 1994). The BLASTX program is publicly available from NCBI and other sources such as the BLAST Manual, Altschul, S., et al, NCBI NLM NIH Bethesda Maryland 20984~~, also http://www.ncbi.nlm.nih.gov/BLAST/blast_help.html) provides online help and further literature references for BLAST and related protein analysis methods,~~ and Altschul, S., et al., J. Mol. Biol 215:403-410, 1990.